

TRIBAL ECOSYSTEM SERVICES RESEARCH PROGRAM (ESRP) WORKSHOP

Connecting Ecosystem Services to USEPA Programs and Objectives, by Focusing on Ecological Functions.

Upcoming Workshop Description:

Hosted by: Santa Ynez Band of Chumash Indians, USEPA Office of Research & Development and USEPA Region 9

This Workshop is FREE to all Tribes and Tribal members

When?

Tuesday May 24, 2011 to Thursday May 26, 2011
Workshop runs from 8am to 5:00pm

Where?

**Hotel Corque
400 Alisal Rd,
Solvang, CA 93464**

Field Sites: Santa Ynez River Wetland (lentic) area, and Zanja de Cota Creek (lotic), on the Sanata Ynez Reservation.

*****Note: Please dress appropriately for field sites (sneakers, hats, comfortable clothing)*****

Who is this Workshop Geared Toward?

Ecosystem services are a result of ecological processes producing environmental resources. Objective is to explore through ecological function process the feasibility and utility of incorporating an ecosystem services science approach in adaptive management and decision making in Tribal resource programs.

Outcome is to identify potential partners and pilot studies designed to assess the function and condition of ecosystems to quantify the derived goods and services. Literature, data, models and necessary background information developed for and during this workshop will be used to support Tribal Ecosystem Service (ESS) studies. Data will be assembled into an electronic data browser for ready use by tribes.

Individuals who may be interested in attending:

Natural Resource Managers	Geologists	Watershed Coordinators
Environmental staff	Botanists	Land Managers
Water Quality staff	Ecologists	Biologists
Nonpoint Source Pollution staff	Farmers/Ranchers with water resources on property	

Registration

To register for this workshop, please contact Robert Hall, USEPA Region 9, hall.robertk@epa.gov, (415) 947-4123, or John Lin, USEPA ORD, lin.john@epa.gov, (702) 798-2171.

SwESP Workshop Objective:

The objective of this three day workshop is to explore the feasibility and utility of focusing an ecosystem services science approach for adaptive management and decision making in Tribal natural resource and environmental (e.g., USEPA CWA 106, 319, etc.) programs. In addition, identify Tribal research partners and pilot studies designed to assess the function and condition of ecosystems to quantify the sustainability of derived goods and services - production, assimilation and resilience (PAR). Therefore, the products from this research will be used to assist tribes in developing resource adaptive management objectives and plans, and monitoring indicators (i.e., landscape and aquatic).

(A) *Goal/Purpose:*

Purpose of the SwESP research program is to address impacts to societal/cultural and monetary/nonmonetary goods and services from various environmental stressors (e.g., anthropogenic alterations, nutrient loading, etc.). The goal of this research is to understand the ecological relationships and interconnectivity between terrestrial and aquatic habitats (i.e., hydrologic systems, recognize fundamental changes to the water cycle, water quality, aquatic and terrestrial ecology, stream form and function). For example, Riparian areas and water catchments modify water quality depending on their physical functioning. Systems functioning properly capture, and temporarily store sediment and nutrients, releasing them to produce things of value to people. Resiliency of the riparian system allows them to thrive under stress from the vagaries of nature. Riparian systems at risk, as they approach a threshold, are beginning to accelerate the loss of sediment and nutrients accumulated over time. Destruction of stress absorbing structures, including riparian vegetation and floodplain access, leads to flushing water, soil organic carbon and essential nutrients, degradation in soil and community quality, and declining productivity. Loss of biomass and biotic resources, erosion of soil, and magnification of flood effects are accelerated in non-functional systems. Non-Functional systems fail to process surges from upstream inputs

(B) *Background Information:*

Functioning landscapes deliver ecosystem services in the form of products, assimilation, and resilience (PAR). They provide ecosystem services at rates varying across landscapes, because of differences in potential and in the condition of each area to function. Wildlife and aquatic

habitats as well as economic enterprises all depend on the development of a riparian and watershed management strategy that sustains ecological functions through facilitated self repair. By recognizing the value of services provided by functioning ecosystems, society becomes motivated to avoid risky, support sustainable, and facilitate restorative management.

EPA's Ecosystem Services Research Program (ESRP) in the Office of Research and Development has undertaken a comprehensive research effort to study ecosystem goods and services, and the benefits they provide to human well-being. For example, stream and wetland riparian ecosystems provide clean water, flood protection, wildlife habitat, livestock habitat and food, and human food, fuel, and fiber. These goods and services are also facing unprecedented pressures from climate change and population growth. Consequently, sustainability of basic ecosystems services vital to human health and well-being may be becoming compromised.

Tribal Ecosystem Services (ESS) studies will be conducted in collaboration with Tribes and others to determine how an ecosystem services assessment can be linked with traditional knowledge to improve natural resource management and to identify decision support options. The sustainable flow of natural resources and ecological services is required to meet the nutritional, cultural, societal and economic needs of indigenous communities. Tribes offer unique knowledge and perspectives in managing ecosystems. Understanding the linkages between traditional knowledge, locally evolved management systems, human health and well-being, and risk will enhance Tribal adaptive management program(s), the evolution of ecosystem services sciences, and further USEPA's ESRP.

(C) Field Trip

Vegetation is one of the primary ecological attributes affected by humans (i.e., grazing, urbanization, etc.), and provides indicator of succession to quantify functionality trend. The goal of the USEPA, Tribes and land management groups and agencies is to maintain and restore the goods and services of stream and wetland riparian areas. To address the aquatic impacts from environmental stressors it is important to understand the interconnectivity of a system and recognize the fundamental changes to the water cycle, water quality, aquatic and terrestrial ecology and stream form and function. Field Trip will assess stream function and biophysical alterations at a local scale to provide an example of adaptive management alternatives. The objectives of the Field Trip are:

- Define management recommendations and broad based strategies.
- Incorporate landscape and aquatic metrics into the analysis - what metrics work better than others - e.g., soil metrics, vegetation, land use, etc.
- Indicator development - identify lotic and lentic attributes appropriate for the potential or capability of the setting.
- Identify parameters to be monitored.